REMARKS

By this amendment, claims 31, 36, and 44 have been amended. Claims 1-34, 36-39, and 44 are pending in the application. Applicant reserves the right to pursue the original claims and other claims in this and other applications.

Applicant gratefully acknowledges the allowability of claims 1-30, 33, and 38.

On February 17, 2006, Applicant's representative spoke via telephone with the Examiner in reference to the Nakamura et al. reference. The Amendments to claims 31, 36, and 44 reflect the suggestions made by the Examiner during the course of that conversation.

Claim 31-32, 34, 36-37 and 39 stand rejected under 35 U.S.C. 102(e) as being anticipated by Nakamura et al. (U.S. Patent No. 6,864,820). This rejection is respectfully traversed.

Claims 31 and 36 recite, *inter alia*, a method for converting an analog signal to a digital word, comprising "mapping said magnitude to a digital word with a first and second transfer function only, wherein: if said magnitude is less than a predetermined threshold, mapping said magnitude to said digital word exclusively with said first transfer function, if said magnitude is at least equal to said predetermined threshold, mapping said magnitude to said digital word exclusively with said second transfer function" (emphasis added). Nakamura et al. does not disclose these limitations.

Nakamura et al. discloses "Code mapper 147 processes the below-range codes by mapping the codes to the partial transfer function of FIG. 16B [which] maps those codes falling below the nominal input range of ADC 133, which is below -1V .... Similarly, code mapper 149 processes the above-range codes by mapping the codes to

the partial transfer function of FIG. 16C ... [which] maps those codes falling above the nominal input range of ADC 133, which is above +1V .... Offset corrector 151 corrects for quantization errors of the input 137, and processed the codes within the nominal input range by mapping the codes to the transfer function of FIG. 16D ... [which] maps those codes falling within the nominal input range of the ADC 133, which is between -1V and +1V." Col. 7, ln. 53-67. There is no mapping said magnitude to a digital word with a first and second transfer function only as recited in claims 31 and 36. Nakamura et al. uses a second and a third transfer function when the code is above the first.

Since Nakamura et al. does not disclose all the limitations of claims 31 and 36, claims 31 and 36 are not anticipated by Nakamura et al. Claims 32 and 34 depend from claim 31 and are patentable at least for the reasons mentioned above. Claims 37 and 39 depend from claim 36 and are patentable at least for the reasons mentioned above. Applicant respectfully requests that the 35 U.S.C. § 102(e) rejection of claims 31-32, 34, 36-37, and 39 be withdrawn.

Claim 44 stands rejected under 35 U.S.C. 102(e) as being anticipated by Tarnoff (US 6,829,012). This rejection is respectfully traversed.

Claim 44 recites, inter alia, "an analog to digital (A/D) converter circuit that receives analog signals from the pixel array and converts the analog signals to digital signals with a variable-bit level of quantization, said A/D converter circuit comprising, a linear A/D converter, for producing intermediate values from said analog signals, and a processing circuit that remaps value said intermediate values produced by said linear A/D converter using a mapping table." Tarnoff does not discloses these limitations.

The Office Action indicated at page 3 that "to overcome the cited prior art, applicant needs to change 'variable' to variable-bit." This has been done.

Tarnoff discloses a high speed telecine device. Fig. 5 illustrates that the telecine device includes red, green, and blue sensors which output to respective fixed 12-bit analog-to-digital converters, which produce 12-bit color pixel values for each of the red, green, and blue channels. Accordingly, Tarnoff does not implement any type of variable level of quantization. Tarnoff in fact uses a fixed 12-bit quantization. Although the Examiner takes the position that the red level, blue level, and green level are variable, the quantization of those levels is not variable, but is restricted to a 12-bit number for each color. Since Tarnoff does not disclose all the limitations of claim 44 claim 44 isnot anticipated by Tarnoff. Applicant respectfully requests that the 35 U.S.C. § 102(e) rejection of claim 44 be withdrawn.

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Dated: February 21, 2006

Respectfully submitted,

By _____

Thomas J. D'Amico
Registration No.: 28,371
Rachael Lea Leventhal
Registration No.: 54,266
DICKSTEIN SHAPIRO MORIN & OSHINSKY LLP
2101 L Street NW
Washington, DC 20037-1526
(202) 785-9700
Attorneys for Applicant